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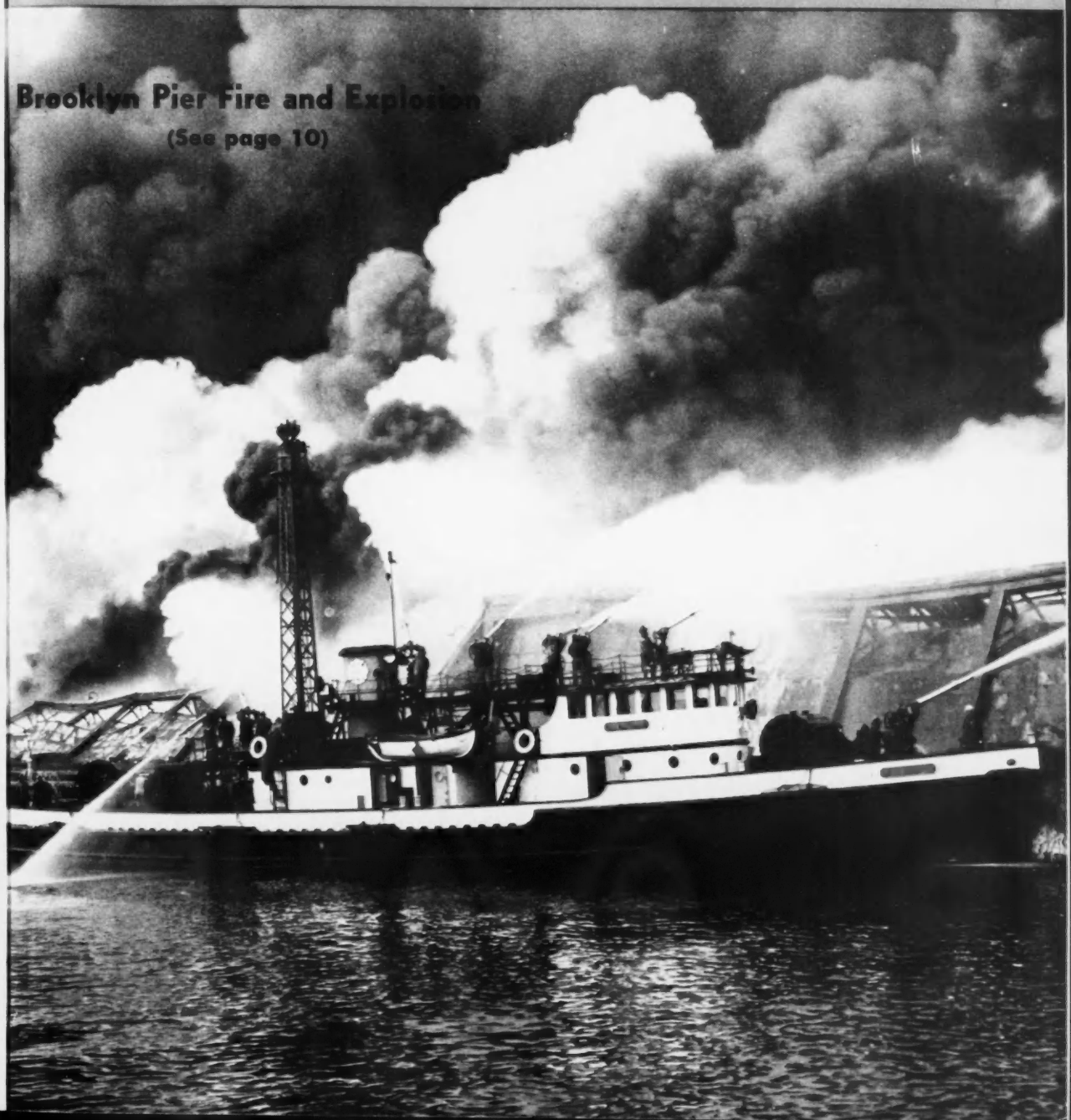

Brooklyn Pier Fire and Explosion

(See page 10)

LITTLE ROCK, ARK., REPORTS...

Fire Chief Gann Nalley, and Mayor Mann, welcome the modern Gamewell Fire Alarm system installed to protect the lives and property of their fast-growing community.

Lowest Yearly Cost, Reduced Insurance Rates with New GAMEWELL SYSTEM

On April 14, 1956, Little Rock joined the ever-increasing list of communities which have thoroughly investigated all types of fire alarm systems — and selected Gamewell. Here is what they found:

- Average annual cost would be as much as 2½ times cheaper than leased voice type service.
- Gamewell system sets into operation, automatically, the dispatching facilities for the entire fire defenses — including all required central office equipment. The fire alarm system is tailored exactly to the Fire Chief's needs and city's fire defense plan.
- It contributes to improvement of city's fire insurance rating from Class IV to III — a saving to property owners of some $100,000 a *year!*

This new 202-box system was planned for coverage of high value districts and will be expanded to protect the fast-developing outlying areas — additional boxes quickly added at very low cost.

Get ALL The Facts! You can bring these same advantages to *your* community. Just ask for a FREE Gamewell Survey. And, most important, be sure you have *all* the facts on costs and completeness of vital municipal fire alarm protection — send for the Gamewell Booklet, "Conversation or Organization". Write:

FIRE FACTS

in Little Rock

Original Gamewell system served efficiently for 42 years. 202 new boxes located in high value districts.

Average of 35 boxes per square mile of built-up area.

Class A Form 4 switchboard, with operator's console, Loud Speaker Inter-communication and paging system serving 11 fire stations, and fire station recording and alarm sounding equipment.

Industrial plants to be safeguarded through Gamewell "Master Box Plan" for extra protection of workmen and industrial plants.

Complete system installed, depreciated and maintained for less than $70.00 per box per year. Additional boxes can be installed and maintained for substantially less than this figure.

Remember-a Gamewell System is FIRST when seconds count!

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THE BOX IS POSITIVE · REDUCES HUMAN ERROR

NOW... Handle Fallen Wires Safely, Quickly, with an EXTENDO Saf-T-Pole

New! The fiberglass Extendo Saf-T-Pole permits rapid, safe handling of emergency fallen wires. Light weight, compact, easy to store and use, a Saf-T-Pole should be standard equipment on every fire and rescue vehicle.

- Fiberglass is non-conductive. High dielectric properties make it safe for personnel handling wires.
- Light weight. Telescopes to full length (16'-20'-24'-28') easily. Sections lock securely for push-pull operation.
- Bronze push-pull head for wire handling. Interchangeable with universal tool head for other line work.
- The Saf-T-Pole is also an excellent ice-rescue tool. Strong and sturdy, the fiberglass is double reinforced at joints for extra rugged use.

- **16'-20'-24'-28' lengths. Telescope to 4½'.**
- **Non-Conductive—tested to 100 KV per foot.**

ORDER YOUR Saf-T-Pole

TO: Orchard Industries, Inc., Dept. F-2, Hastings, Michigan

Gentlemen:

Rush me a fiberglass Extendo Saf-T-Pole

- ☐ **16' Extendo Saf-T-Pole @ $40.00**
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- ☐ **24' Extendo Saf-T-Pole @ $64.50**
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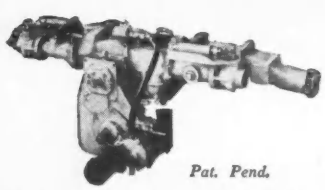
*Company or Fire Department*_____

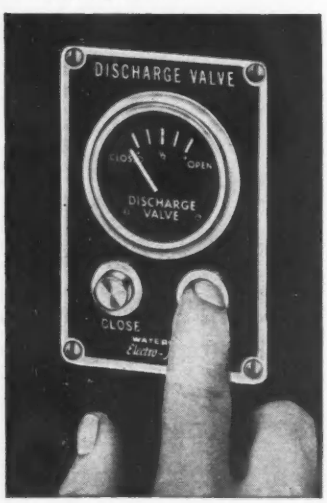
*City*_____ *State*_____

*By*_____ *Position*_____



Pat. Pend.

Electro-Matic 2-stage, centrifugal, fire pump. 500 GPM, Class A. 500, 750 and 1000 GPM capacities available in 2 and 3-stage models.



New Waterous Electro-Matic* pump gives you faster action because it's fully automatic!

Waterous, the first fire pump with power controls for all major pumping operations. The Electro-Matic saves you many of those first critical moments because it is fast, simple and easy to operate. Electro-Matic shift control engages with the flip of a switch located in the cab. A simple push-button controls each discharge valve—opens and closes them either fully or partially, a dial shows the exact valve setting. Changes between "volume" and "pressure" are fast and safe. The Electro-Matic transfer valve operates smoothly, independent of motor speed or pump pressure—panel-mounted buttons control it. The Electro-Matic gives you faster, safer pumping in every way—the utmost in modern fire fighting.

New design of the Electro-Matic requires less space, weighs less and offers extreme mounting flexibility. Newly engineered waterways and impellers give greater performance and efficiency under the widest possible range of conditions. Famous Waterous *2-piece*, horizontally-split case and oil-lubricated impeller shaft bearings located outside of water chamber have been retained for greater dependability and ease of maintenance. Developed after years of careful research and testing, it's the greatest fire fighting development in years—Electro-Matic by Waterous.

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BURN TREATMENT

Instant application of the dressing to the burned area, regardless of size or location, is the first need in burn emergencies. You answer this need the minute you install the new Foille Aerosol Spray in your operation.

At the touch of a finger, this handy device sprays a cool, soothing mist of Foille over the injured area in seconds. The aerosol action directs the Foille to the injury no matter where it is located. This eliminates the painful and time-consuming methods required for applying salve-type dressings.

The aerosol spray technique lets Foille start its work faster, more effectively. Foille's antiseptic and cleansing action reduces the chance of infection—shortens healing time.

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This kit contains four 10-ounce Foille Aerosol Sprays, easy-to-use Type D first aid dressings and accessories. This material is stored in an All-Weather case of 20 gauge steel. Continuous piano-type hinge with stops, mounting brackets, and complete instructions make it ideal for quick, easy use in burn emergencies.

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Foille Aerosol Spray (10-oz.).....**FA-35241**

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SPOTLIGHTING FOUR GOOD REASONS WHY EVERY FIRE DEPARTMENT NEEDS THEM

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Two of the many types of CARPENTER Warning Beacons are illustrated here. Above is the "WIG-WAG" REDHEAD . . . an oscillating beam sweeps the way. Six or eight inch diameter available.

At left is the RAD FLASHING AUTOMOTIVE BEACON. Powerful, half-mile range in all directions from its 5⅛" Fresnel Beehive Dome in red, blue, amber, or combinations.

NEW! The RAR ROTATING AUTOMOTIVE BEACON is newly designed. High-intensity, sealed-beam spotlight rotates horizontally to project its powerful beam through a full 360°. Mounts snuggly on any roof contour or use as stationary beacon. Sturdy, sim-chrome aluminum construction.

Size A — 6, 12, or 115 volt, 11" x 10" high. . . $62.50
Size B — 6 or 12 volt, 7¼" x 6½" high. $49.50

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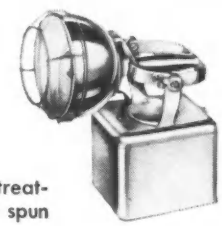
When the need is for a portable searchlight or work light, CARPENTER'S "PORTALITES" are highly recommended. Standard equipment in most fire departments, they are built for longer life, dependability, and rough treatment. Beautifully wire-brushed, cast or spun aluminum throughout. Illustrated model has self balancing handle and rechargeable battery, two-way switch giving choice of mile-range searchlight or 20 hour continuous work light. Many other rechargeable and dry cell battery types available. Send coupon for details.



3 To warn of danger!

Protect men, equipment, and the public from injury, with CARPENTER WARNING BEACONS. The RHD FLASHING HIGHWAY BEACON shown here will protect fire hose and has other emergency applications. Powerful beams are visible for a half mile in any direction. Fresnel Beehive Dome in Red, Blue, Amber, or combinations. 72 hours continuous light . . . much longer if used intermittently. Other models available, including Neon types for 100 days and nights per battery.

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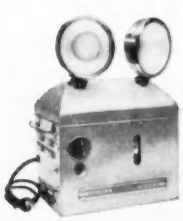

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NAMED FOR ITS DURABILITY

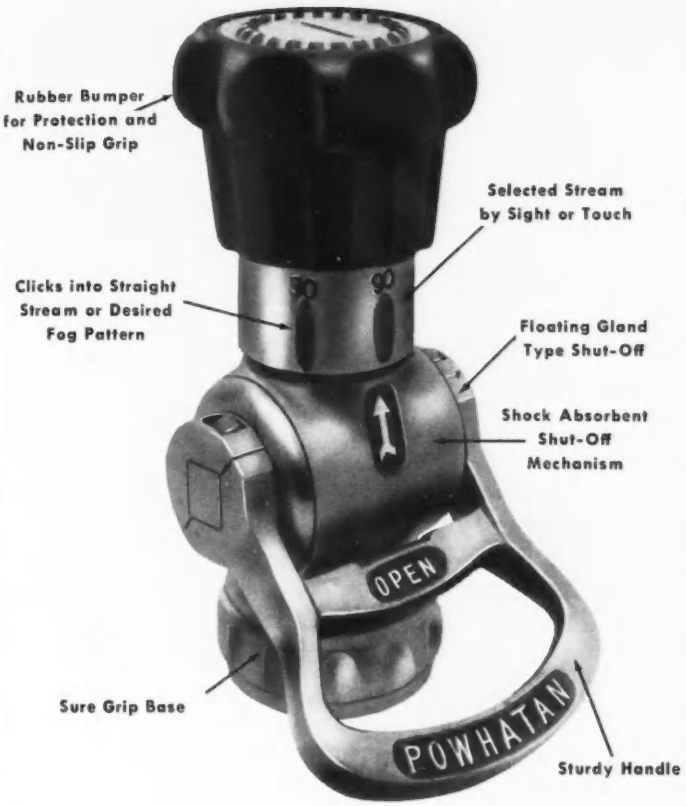

PLATE No. 261

NO LEAK in over a million shut-offs . . . test proof of durability!

100% PERFORMANCE TEST for every Dura-Fog Nozzle!

Performance Test Data for 1½" Size

Water Pattern	GPM	Reach	Nozzle Pressure
STRAIGHT STREAM	57 62	85' 105'	100 psi 125 psi
30° FOG PATTERN	60 65	40' 43'	100 psi 125 psi
60° FOG PATTERN	65 68	30' 35'	100 psi 125 psi
90° FOG PATTERN	72 75	20' 22'	100 psi 125 psi

Contact your local distributor today, write POWHATAN direct for all the facts on the new Dura-Fog Nozzle. . . . Ask for our free Catalog "A".

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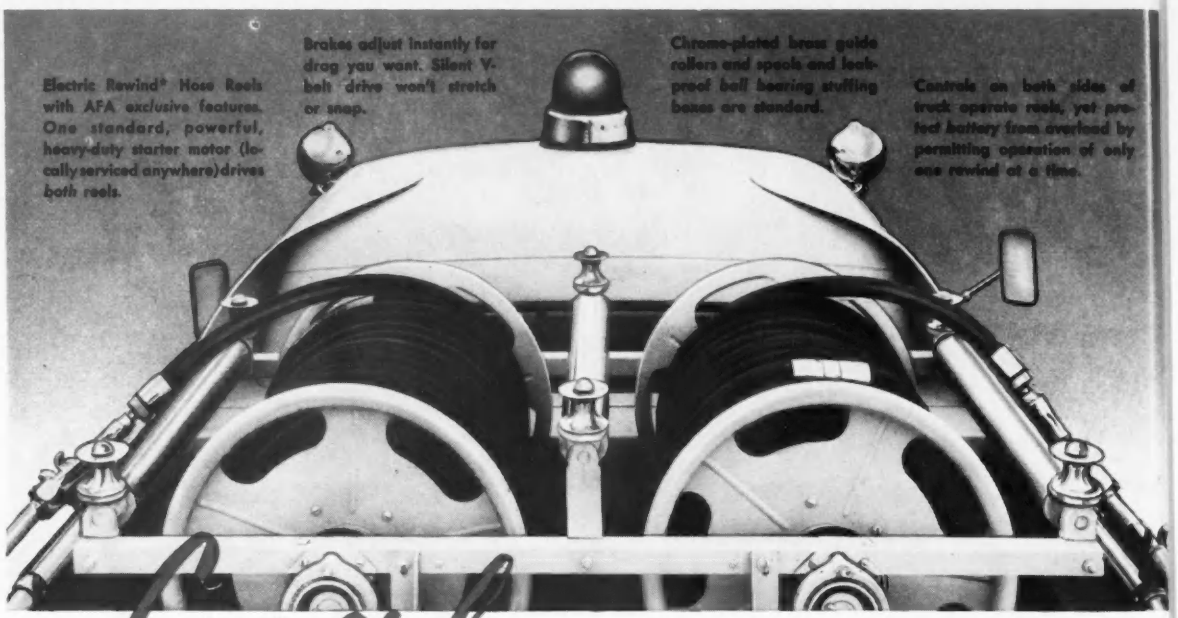
Electric Rewind* Hose Reels with AFA exclusive features. One standard, powerful, heavy-duty starter motor (locally serviced anywhere) drives both reels.
Brakes adjust instantly for drag you want. Silent V-belt drive won't stretch or snap.
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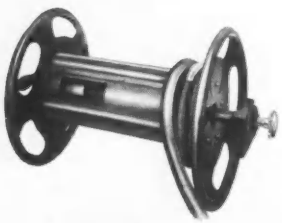
Controls on both sides of truck operate reels, yet protect battery from overload by permitting operation of only one rewind at a time.

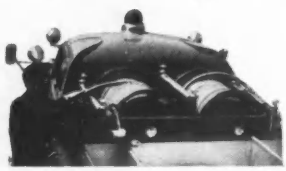
Superb HOSE REEL FEATURES AGAIN PROVE THE ENGINEERING EXCELLENCE OF American Fire Trucks

Two hose reels are supplied as standard equipment on every American Fire Truck

Inset on reel shows superior AFA construction. Collapsible, *self-adjusting* spring steel drum louvers flatten when pressure expands hose. Design prevents damage to hose and couplings—*increases* hose life.



Special convex reel wheels with *wide* rolled edges protect hose. Hose comes *straight* from coupling—*not* sharply bent—thus lasts longer. This is AFA *engineered excellence!*



Hand crank rewind* equipment includes top-quality reels, same fine design as other models.

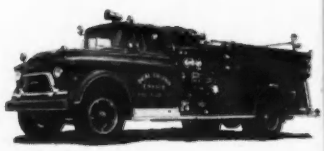
*Optional features at extra cost.

From bumper to rear step, American Fire Trucks are packed with engineered features that firemen like! Examine these fine AFA-built hose reels, for example. See how every detail helps give you faster operation, smoother performance and greater convenience than any other reel built!

As pioneer builders of the first successful electric rewind hose reel, American has continued developing, improving and action-testing to increase the useful benefits these units afford you at any fire.

In line with our policy of offering a choice of chassis, choice of midship or front-mounted pump—and other features to suit *your* community's needs—you can choose these hose reels with electric, hand-crank, or hand-operated rewinds.

Why not get full details?



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Firemen

Volume 24 Number 1

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Cover Picture

When tons of Cordeau detonant fuse exploded during a pier fire in Brooklyn, New York, on December 3, the crew of the fireboat "Fire Fighter" was exposed to the shock wave. Most personnel on the fireboat were knocked down; some were blown into the water. Fortunately, none of them was reported to be seriously injured, although a new crew assumed operation of the vessel. The blast and fire, however, led to the deaths of ten persons and injury to 247 others. Included in the injured group were 68 members of the New York Fire Department, two of whom were hospitalized. (For a more detailed report see page 10 of this issue.)

The "Fire Fighter", one of six fireboats which responded to the "9-alarmer" is shown in action during the fire on this month's cover. Note the stream from the monitor nozzle at left directed into the water to counteract the backthrust of the numerous monitors operating on the fire. This is a common practice of fireboat crews which serves to hold the boat in position. (*Cover picture United Press photo.*)

Pump Design

For quite a number of years centrifugal fire pumps have been commonly provided on motor fire apparatus, although small capacity positive displacement pumps continue to be used by many departments for booster or other small line equipment. As is well known to the fire service, the standard performance for approved fire department pumpers calls for full rated capacity at 150 lbs. net pump pressure, 70 percent of rated capacity at 200 lbs. and 50 percent at 250 lbs. With most centrifugal fire pumps this performance is obtained by having two or more pump impellers and related waterways arranged so that impellers work in parallel to provide maximum volume, and in series for higher pressure.

This pump design, while efficient and quite satisfactory insofar as pump performance is concerned, presupposes that each pump operator knows just which arrangement to use for each individual pumping operation (no two fires are alike) and sets the "transfer valve" in the proper position for best results. In some instances neither setting is quite optimum for the circumstances because the volume setting may not provide fully adequate pressure and the pressure setting may not provide adequate volume. This situation is less likely to occur with late model pumps than with older models which discharged relatively small volumes when operated in series.

Many fire service authorities have reasoned that pumping operations could be greatly simplified in many instances by employing a single stage centrifugal pump having the desired pressure-volume characteristics rather than multistage pumps. Single stage pumps have been commonly employed for 500 gpm pumpers including many front-mounted pumps but hitherto certain engineering problems involving factors such as impeller design and engine speed have favored the use of two or more pump stages. In Great Britain, large volume single stage pumps are employed but these are rated for volume at only 100 lbs. pressure and are not expected to provide the high pressure characteristics demanded by the fire service on the American Continent.

However, fire apparatus engineers inform us that it is entirely feasible to provide 750 gpm single stage centrifugal pumps meeting the American performance standards if the fire service desires such equipment. It appears that such a unit might have considerable appeal, particularly in volunteer departments and if coupled with a chassis having an automatic transmission would present the utmost in simplicity of operation. It is, of course, likely that multistage pumps of larger capacity will remain for some time the most practical means of obtaining the desired performance at the most favorable engine speeds. The NFPA-IAFC standards do not require the parallel-series type of centrifugal pump, provided that the proper percentages of the rated volume specified by the purchaser is obtained within the allowable percentages of peak engine speed. Thus, there appears to be nothing against production of a good single stage pump if it is wanted and demanded by the fire service.

New York City fireboat "Binghamton" was one of six to respond to the fire. (*United Press Photo.*)

Brooklyn Pier Fire and Explosion

by Chester I. Babcock, Manager, NFPA Fire Record Department

AT 3:15 P.M., December 3, fire broke out on Pier 35 in Brooklyn, New York. It quickly overpowered the sprinkler protection and 25 minutes later a violent explosion occurred that killed ten pier employees and spectators and injured 247. Property damage is estimated conservatively at $15,000,000.

The following preliminary report of this disaster is based on information so far released that appears to be authentic. Three NFPA organization members, the National Board of Fire Underwriters, the New York Board of Fire Underwriters and the New York Fire Insurance Rating Organization, are currently conducting a thorough investigation, the results of which will be published by the NBFU. Availability of this report will be announced in NFPA *Fire News*.

Construction Features

Pier 35 was 1,748 ft. long by 150 ft. wide. Principal features were a 14-inch-thick reinforced concrete pier deck on wood piling, topped with a two inch asphalt wearing surface; and a steel-framed, metalclad pier shed extending the length of the pier. Dry pipe sprinkler systems were supplied by an 8-inch pier main to protect the pier shed. Draft curtains were installed so that no more than 200 sprinklers were between adjacent curtains. (*See page 642, NFPA "Handbook of Fire Protection," 11th Edition — Ed.*)

A complete list of the cargo on the pier is not available at this writing. Reports indicate that the pier was heavily loaded with combustible materials including flammable liquids, baled sisal, foam rubber and Cordeau detonant fuse, but except for the fuse an exact listing of the quantities present is not yet available. A shipment of 37,000 pounds gross weight of spooled Cordeau detonant fuse in 1,950 cartons had arrived at the pier Nov. 28 and was still on the pier Dec. 3. This shipment has been estimated as containing about 40 per cent by weight of a Class A explosive.* In other words about 7½ tons of explosives were stacked somewhere on the pier. Cordeau detonant fuse is classified as a Class C explosive by the Interstate Commerce Commission and, according to New York Fire Department officials, comes under a ban on shipment of explosives through the New York piers that was imposed following the Texas City disaster of 1947.

Sparks from Welding Torch

Sparks from a welding torch being used to repair the roof of the storage shed are said to have landed on a large pile of burlap-wrapped foam rubber. An exact account of what happened during the next few minutes is not yet available but from a knowledge of the rapid-flame spread characteristics of burlap and the intense and rapid burning properties of foam rubber it can be surmised that an intense and rapid spreading fire enveloped the pile of foam rubber and extended to other piles of congested combustible storage. Sprinklers probably opened without appreciable delay and held

Aerial view of pier fire which brought "9-alarm" response. Altogether, 35 pumpers, (16 from Manhattan), 6 fireboats, 6 ladder trucks, a rescue unit and a number of police, Civil Defense, ambulances and other emergency vehicles were brought to the fire scene. Some 24 pumpers and 3 ladder trucks moved throughout the City on covering assignments. It was reported that 68 New York City fire fighters were injured during the fire. (*United Press Photo.*)

*Class A explosives possess maximum explosion hazard. Class B explosives are those which in general function by rapid combustion rather than detonation. Class C explosives include certain manufactured articles which contain Class A or Class B explosives, or both, but in such restricted quantities that they are considered to possess minimum explosive hazard.

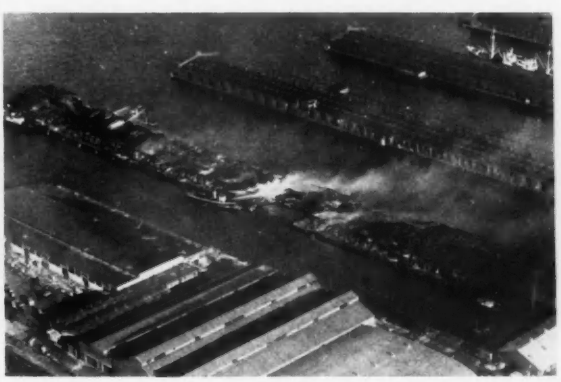
the fire beneath in check during the first few minutes, but with the fire spreading rapidly to other congested cargo ahead of the opening sprinklers, so many must have opened in the draft curtain area of origin and in adjacent draft curtain areas that the sprinkler water supply was quickly overtaxed.

Fire officers responding to the first alarm found the fire out of control and during the next 20 minutes sent three more alarms for additional land and water companies.

The Explosion

Twenty-five minutes after the first alarm a terrific explosion occurred at about the midpoint of the pier. It was this explosion that caused the casualties and widespread property damage. In addition to a hole 175 ft. by 75 ft. blown in Pier 35, the explosion moved an adjacent pier 15 to 18 inches out of line and broke sprinkler piping. Neighboring buildings were extensively damaged and windows several miles away were broken. A blast of sufficient violence to cause destruction of this magnitude must certainly have involved an explosive or some material with similar explosive properties. Since the only such material so far known to be on the pier was the Cordeau detonant fuse, it is a safe assumption that the pile of cartons of fuse detonated *en masse*. Cordeau detonant fuse, according to an ordnance expert of the First Army, will explode if exposed to temperatures in excess of 500°F.

Twenty-five firemen in the pier shed were knocked down and two of the seven man crew of the fireboat "Fire Fighter" were blown into the water. Miraculously no fire fighters were killed, but a new fireboat crew went into operation. Fire additional alarms were struck bringing all available apparatus from Brooklyn, supplemented by apparatus of outlying boroughs, special fire and police emergency equipment, Civil Defense vehicles and ambulances. The Coast Guard brought 13 craft to the fire area and helped to move vessels that were tied to the piers. By 6:42 P.M., three hours and 27 minutes after its start, the fire was under control.



View of 1,748 ft. pier when mopping-up was being completed. Note semi-circular opening in pier where fireboat is operating in center of photo. This is area where blast occurred. A report stated that the fireboat "Fire Fighter" is now in dry dock after receiving deck house damage, indentations and ruptured fuel oil line from the explosion. (*Wide World Photo.*)

OTHER RECENT FIRES

Cloquet, Minn., November 22. Chief A. M. Luukkonen of Cloquet reports that 35 of his fire fighters plus volunteers fought this blaze in 4 degree F. temperature. The fire started in the basement furnace room of the 300 by 225 ft. 1- and 3-story brick, wood-joisted building. Heat from a crack in the chimney where flue pipe entered ignited floor joists in contact with chimney. Fire followed joists to storage area where paper boxes ignited, then spread through undivided basement and up open stair and elevator shafts in unsprinklered building. Estimated loss $379,500. (*Cloquet Fire Department Photo.*)

Stratford, Conn., October 11. Members of Chief Theodore Lockwood's Stratford Fire Department responded to a telephone alarm for this dwelling fire. Fire fighters found four of the occupants dead in the front hall, a fifth victim in his bed. All five victims had suffocated after fire broke out in the kitchen, reportedly because of a flooded oil burner. (*Wide World Photo.*)

Lewiston, Maine., November 18. Chief Zepherin F. Drouin's fire department responded to a box alarm when fire involved this unsprinklered 240 by 130 ft. skating arena. Explosion of ammonia released by the fire in a refrigeration room led to rapid involvement of auditorium and fire was out of control when first apparatus arrived. Loss was estimated at $515,000. (*Lewiston Sun-Journal Photo.*)

Maintenance of Building Exits

by Robert S. Moulton, Secretary, NFPA Committee on Safety to Life

WHATEVER the requirements are for exits in pertinent building codes or other legislation, and whoever may be the enforcing agency for the original design of exits, it generally falls to the fire department to enforce exit maintenance provisions.

Making sure that exit doors are unlocked during periods of occupancy of buildings, and many other features of maintenance necessary to keep exits in a usable condition at all times, require a great deal of inspection and a proper understanding of the fundamentals. The inspection of exits to assure proper maintenance is something that can be done by any fireman at any time but the most effective check is made while the building is fully occupied. There is no excuse, then, for leaving any door locked or for blocking open any stair door. In many cases volunteer firemen attending public or private functions in schools, churches, theatres, or other places of assembly, have opportunities to make inspections and call violations to the attention of the management.

The fundamental principles of exit safety are contained in the Building Exits Code, just released in its 13th edition by the National Fire Protection Association. This 224-page document, covering all details of exits, is available from the National Fire Protection Association at $1.00 per copy.

(*Right*) The main entrance of the Cocoanut Grove. Revolving door opening may be seen through right archway, locked swinging door through center archway. Two hundred people perished at this point. (*Acme photo.*)

Irrespective of the number and adequacy of exits, there are certain provisions of maintenance which are absolutely essential. Paragraphs 1002 and 1004 cover the principles involved in maintenance. There are many details other than these paragraphs throughout the Code which must receive consideration but these two provide the statement of principles which should be followed:

> 1002. Every building or structure shall be so constructed, arranged, equipped, *maintained* and operated as to avoid undue danger to the lives and safety of its occupants from fire, smoke, fumes or resulting panic during the period of time reasonably necessary for escape from the building or structure in case of fire or other emergency.
>
> 1004. Exits shall be so arranged and *maintained* as to provide free and unobstructed egress from all parts of every building or structure at all times when the building or structure is occupied. No locks or fastenings to prevent free escape from the inside of any building shall be installed except in mental, penal or corrective institutions where supervisory personnel is continually on duty and effective provisions are made to remove occupants in case of fire or other emergency.

One of the most difficult features of exit maintenance is to provide that doors on stairways and smoke-stop doors, which are designed to be kept closed, are actually kept in the closed position to restrict the spread of fire and smoke and protect the exit. It is difficult to understand how universal the practice is of blocking exit doors open, using wooden wedges under the bottoms. This reflects a complete disregard of the principles of exit safety. Removing the wooden wedges and allowing the doors to close is the immediate and obvious answer to the problem, but this will not suffice unless the management really understands the principles of fire safety, as tomorrow or next day a reinspection will disclose that the wooden wedges are there again.

Anyone who understands fires

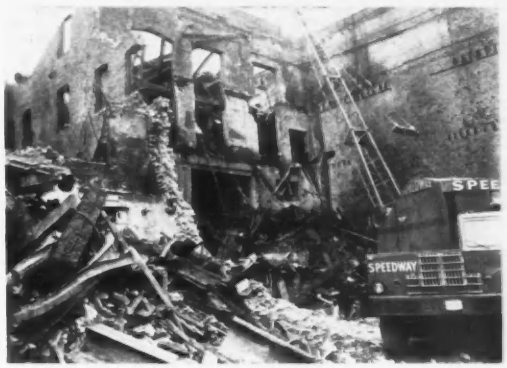
Door in Cocoanut Grove Night Club equipped with panic hardware but locked shut. Total dead in the fire, 493. (*International.*)

Four lives were lost in the Plaza Hotel, Jersey City, when smoke from a mid-morning fire in the lobby went up stairs. Stair doors were blocked open temporarily during cleaning operations.

should know that wedges under the bottoms of doors will not burn in time to let the door close before heat, smoke and flames pass through the doorway. Furthermore, unless there is a very carefully worked out fire drill procedure, which is possible to achieve in hospitals and schools, there is no assurance that doors which are meant to be closed to provide safety for egress will actually be closed in time of fire emergency if they are normally blocked open with wedges, hooks or other devices.

The only real answer is to explain to the building management the importance of doors provided to stop the spread of fire and smoke, to explain how fires spread, the speed with which smoke may be generated from even a small fire, and the importance of keeping these doors shut.

Another problem which requires great tact in building inspection for maintenance is to make sure that all exits provided are not only unlocked, but that they are freely visible so that anyone in any part of the building can see them. It is all too easy in a large building to have some temporary storage, showcase, counter or other obstruction erected after the building is completed, so fixed as to completely obstruct the path of travel to exits. This is readily rectified by the provision of signs and arrows which point the way to the nearest exit.



(*Right*) Doors to one stairway were presumably open; a second stairway had been removed pending new construction. Dead, 35; injured, 38. Chicago, April 16, 1953.

Where there are revolving doors, the Building Exits Code specifies swinging doors immediately adjacent or within 20 feet so as to provide a free path of escape in case revolving doors become blocked in a panic rush of people to reach the outside of the building. It is all too common practice to install such swinging doors and then conveniently lock them in order to compel the use of the revolving doors or, what is just as bad, to obstruct them with large potted plants or furniture.

Doors swinging inward where they should swing out illustrate another very common failure of exit maintenance which can be rectified readily in most cases simply by rehanging the doors. In the Cocoanut Grove fire where 492 people lost their lives, the only two exits conveniently available were a revolving door, which was blocked by bodies of people trying to crowd their way through it, and a swinging door opening into the building at another location, which in the panic rush for the exits, could not be opened against the exit travel.

These and many other features of exit maintenance require constant attention in order to make sure that exits are in proper operating condition. Firemen are in the best position to handle inspections and explain to the building owner the serious consequences when exits are not maintained free and unobstructed, ready to permit occupants to escape from any fire at any time.

British Fire Protection Year Book

THE 1957 edition of the Fire Protection Year Book has been published by *Fire Protection Review*, Bouverie House, Fleet Street, London E. C. 4, England. This year book is a comprehensive directory applying to the British Commonwealth and Empire.

It lists public and industrial fire brigades, government departments and associations with functions relating to fire prevention and fire protection matters. It has sections dealing with the laws relating to fire brigades in Great Britain and also summarizes the requirements of laws relating to fire protection in factories and dangerous trades, in buildings, and with respect to dangerous substances.

The book may be purchased from the publishers at the above address for 15 shillings postpaid, or it may be obtained together with twelve monthly issues of *Fire Protection Review* for 1 pound (home) and 1 pound 5 shillings (overseas).

New Chiefs' Association

ON NOVEMBER 4, 1956 the first meeting of the Montana State Fire Chiefs' Association was held in Great Falls, Montana. Constitution and by-laws of the new organization were adopted, and a special committee was established for setting up a state-wide fire training committee. Active members of the organization will be chief officers of regularly organized public and private fire departments, state and territorial fire marshals, and officers of nationally recognized organizations. Fire officials wishing to join should contact Wm. Hayes, Secretary-Treasurer, Great Falls, Mont.

Illinois Training

THE report of training activities in the State of Illinois during the fiscal year ending June 30, 1956, was not included in last month's summary of State and Provincial Firemen's Training. (December, 1956, FIREMEN.) Robert K. Newton, supervisor of Firemanship Training at the University of Illinois, reports that great success has been obtained with regional fire officers' training schools. The annual Illinois State Fire School had 846 attending.

During the fiscal year, five regional officers' training schools were conducted, each serving fire departments located within fifty miles of the training site. New instruction requested by fire fighters during the year included proper handling of airplane crash fires and propane gas fires. A total of 3,846 firemen took part in the State training program.

ADT Central Station in Boston, Massachusetts.

Let's Look at Some

PROTECTIVE SIGNALING SYSTEMS

Another in a series of articles describing the organization and equipment of leading fire protection equipment manufacturers.

PERSONS who read reports of large-loss fires are often impressed by such statements as: "At 8:01 p.m., two hours after the mill had closed for the night, a passer-by discovered the fire." "The plant was in full operation when the fire started, but the outbreak was not promptly discovered." Or, "a 31-minute delay by the watchman in transmitting an alarm permitted the fire to spread beyond control."

According to records of the National Fire Protection Association, late discoveries and delays in summoning the fire department were factors in 51 percent of large-loss fires during 1955. When finally called into action under such conditions, fire-fighting forces often find the building well involved by fire.

Helping to minimize such delays in discovery and fire department notification is one of the principal functions of the American District Telegraph Company, generally known as ADT, which has specialized in providing electric protection services for more than 80 years. The organization, with its executive offices at 155 Sixth Avenue, New York 13, New York, supplies fire detection and alarm services for calling fire-fighting forces into action quickly.

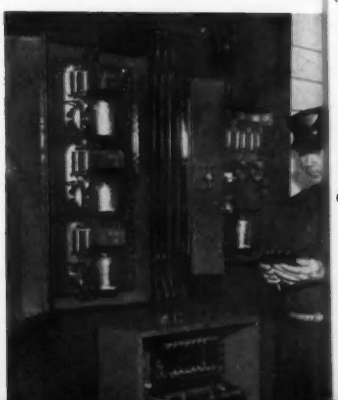
ADT provides central station electric protection services against fire, burglary, holdup and other hazards to more than 61,000 "subscribers" in 735 municipalities of the United States. Protective signaling systems installed in subscribers' premises are connected directly to a central station manned night and day. In these central stations, operators note incoming signals and initiate whatever action the situation demands. If a fire alarm is received, fire headquarters are alerted immediately over a direct wire to the department's fire alarm center. Uniformed guards are dispatched to protect the subscriber's interests and to aid municipal forces if necessary.

Outside of areas served directly by its central stations, the company installs protection systems for connection to fire department headquarters, or to some location where forces are on duty twenty-four hours a day. In large industrial plants, systems may be installed to operate through proprietary central stations on the protected premises.

The dependability of all protective signaling systems is directly proportional to the extent and quality of the maintenance, testing, inspection and supervision they receive. Since ADT assumes responsibility for the operation of its systems, central station personnel do much more than receive and transmit alarms. Test signals transmitted by maintenance men are received constantly in the central station during daytime hours. Along with these tests, periodic inspections of the electrical and mechanical devices, and complete upkeep of the signaling system are performed to assure reliable transmission of alarms in emergencies. The same inspections, tests and maintenance are provided for systems connected directly to the fire department.

Constant central station supervision assures quick warning in case of damage to the protective wiring or tampering with the alarm devices. These and other trouble conditions automatically register distinctive signals at the central station where maintenance men are on hand to make prompt repairs. Exterior protection circuits between the central station and the protected premises are arranged on the McCulloh principle, which permits receipt of signals regardless of an opening or grounding of the circuit.

The company also provides several types of automatic fire protection services. For buildings equipped with automatic sprinkler systems, central station sprinkler supervisory and waterflow alarm service is provided. This system transmits a waterflow alarm which summons the fire department or other desig-



Service man makes periodic test of sprinkler supervisory and waterflow alarm transmitters which signal ADT Central Station.

nated fire-fighting forces whenever a sprinkler head opens. It also detects and signals when there are closed shut-off valves and other abnormal conditions caused by human carelessness or maliciousness. If a shut-off valve is closed for repairs or any other reason, a detection device automatically signals the central station, from which operators investigate the cause and initiate corrective action. A close check is maintained until receipt of another signal indicates that the valve has been reopened. Similarly, detection devices give warning of low or high air pressure in dry pipes and pressure tanks, low water in gravity tanks and other irregularities that might impair the effectiveness of the sprinkler protection.

In 1956, a typical year, ADT received and acted upon more than 200,000 alarms from supervised sprinkler systems. Most of these alarms signified conditions which, if neglected, might have been disastrous in the event of fire. According to the company, during the past ten years, buildings equipped with automatic sprinklers under central station supervision have averaged 99 and 98/100ths percent immunity from fire losses.

Various types of automatic fire detection and alarm services can be provided to protect unsprinklered properties. One of these is named the "Aero" automatic fire alarm. The fire-detecting element for this system is air contained in continuous lengths of copper tubing, one-twelfth inch in diameter, run in circuits along or just under the ceiling. Air in the tubing is normally at atmospheric temperature and pressure. When fire starts, heat rises and spreads over the tubing, increasing the temperature and pressure of the air inside the tubing, resulting in the transmission of an alarm to the central station. A slow rise in temperature, as caused by heating systems, or normal atmospheric changes, will not affect the system because air is vented slowly to maintain atmospheric pressure. Only a rapid rise in temperature, as caused by a fire, can create sufficient pressure to cause an alarm.

Another ADT rate-of-rise fire detection system, "Teletherm," is designed especially for buildings with large, open areas and high ceilings. One of these devices may detect fire in an area of more than 20,000 square feet. This system picks up radiant heat waves from a fire and focuses them upon a thermopile, which converts the heat directly into electrical energy to initiate an alarm.

In fur-storage vaults and other occupancies where smoke from a smoldering fire is likely to precede the outbreak of flames, the company's automatic smoke detection and alarm service is utilized for fire and smoke control. The system is an adaptation of the familiar electric eye. When smoke from a smoldering fire intercepts the beam projected from a light source at one end of the protected area, the intensity of light striking a photocell at the opposite end is reduced, and a signal is automatically transmitted to the central station, where operators alert fire-fighting forces. Another smoke detection system is specifically designed for air-conditioning, ventilating and other air-duct systems. When smoke intercepts a beam of light, the system automatically shuts down fans, closes dampers and transmits an alarm to the central station.

(*Right*) A "Teletherm" rate-of-rise automatic fire detector.

Another typical Central Station where operators, on duty 24 hours a day, receive and act upon fire and burglary alarms and other emergency signals. Fire alarms and supervisory signals come in on tape registers in foreground; burglar alarms on small panels in background. Station is connected directly with fire and police departments.

Many properties obtain protection against fire and burglary by combining either sprinkler supervisory and waterflow alarm service, or automatic fire detection and alarm service with burglar alarm service. Current-carrying aluminum foil stripping, electrical contacts (for doors and movable windows) and sometimes fine wires embedded in wooden doweling or wallboard, are used to place an electric barrier across possible entrances to a building or part of a building. When a burglar breaks the circuit, an alarm is transmitted to the central station which initiates investigation.

A burglar alarm device called the "Invisible Ray," utilizes the photoelectric cell. This system transmits an alarm when a burglar passes through an invisible beam of light projected across the protected area. Although designed specifically to catch prowlers and burglars, the invisible ray frequently detects fire in time to prevent serious damage.

Another type of automatic protection which may be combined with fire and burglar alarm service is automatic heating and industrial process supervisory service. This service maintains a constant automatic check on the operation of oil- or gas-fired furnaces and on room temperatures, stack temperatures, boiler water levels, and other conditions which affect the operation and safety of the system. Abnormal conditions are promptly detected and reported to the central station.

Industrial processes requiring 'round-the-clock supervision may also be checked automatically by this service. Drying ovens, paint mixers, steam cookers, lead kettles and other industrial machinery used in continuous processes are often supervised automatically.

Special Ladder Truck for Refinery

THE Port Arthur Works of The Texas Company is located on the Gulf coast at Port Arthur, Texas. The refinery had its origin in 1902 shortly after the discovery of oil at nearby Spindle Top, and has since grown to be Texaco's largest petroleum products manufacturing plant, processing over 230,000 barrels of crude oil per day.

Modern methods used for processing and storing flammable liquids help to minimize the number of refinery fires, still the Port Arthur Works features a well-equipped industrial fire department with trained personnel and the equipment to combat fire emergencies.

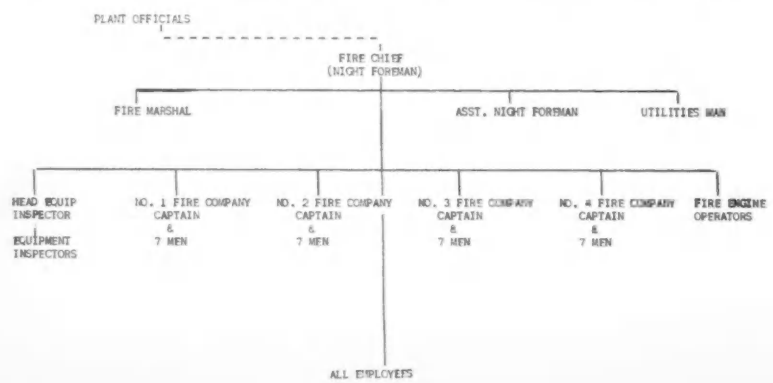
In April 1954, a fire occurred in a floating roof tank in a neighboring pumping station. Existing portable foam towers proved inadequate in extinguishing the fire burning around the tank's roof seal. Foam tended to run to the center of the roof and had little effect on the seal fire. Discussions following the incident revealed the limitations of existing equipment and brought out the need for more effective foam towers to fight such fires. As a result, two National hydraulic foam towers mounted on trailers, and a specially designed Seagrave aerial ladder truck were ordered.

This truck is built on a Chevrolet Series 6500, 135-horsepower, cab and chassis equipped with a "Truckstell" dual axle drive. The dual tandem drive wheels are fitted with demountable Galanot-Watson "Tyr-Tracs" to permit the truck to be driven off the road, over the tank dikes, and into swampy areas. The demountable steel half-tracks are normally stored in one of the truck compartments and can be installed by two men in approximately 10 minutes. A Seagrave 65-ft. aerial ladder with a 180 degree turning arc is mounted on the truck and provides sufficient elevation to aim foam where it is needed on the highest tank. The truck carries 3-in. foam hose and generators instead of the conventional 2½-in. size; however, adaptors are carried to fit the regular plant 2½-in. foam system. Other equipment carried includes asbestos suits, gas masks, and fire fighting tools.

In addition to its specific job of fighting tank fires, the aerial ladder truck can be used for rescue work and other instances where a tower can be used to advantage.

The chart on this page shows the general organization of the fire fighting force. The night foreman is the fire chief. He has charge of fighting all fires, and is subject to instructions from key plant officials. A night foreman is on duty on all shifts and is the highest supervisor in the plant on such a basis. His regular duties keep him constantly informed of operating conditions on processing units within the plant and, because of this knowledge, he is well-qualified to direct fire fighting.

The fire marshal is in charge of all plant fire fighting equipment and the full-time fire station personnel. His inspectors carry out a systematic inspection and maintenance program on all plant fire fighting equipment. The fire marshal sees that adequate equipment is kept at the scene of a fire and cooperates with the fire chief in directing the fire fighting.



There are four fire companies on duty every shift. Each is composed of a captain and approximately seven shiftmen. The captain is responsible for the welfare of his men and the proper performance of duties at fires. Fire drills and training periods are held weekly for men in the fire companies.

When a fire occurs, it is reported to the plant telephone operator who, in turn, sounds the proper alarm, notifies the fire station, night foreman, fire pumphouses, and key plant officials as necessary.

The siren alarm calls out No. 3 Company. Should the fire be of such severity that more men are needed, the plant fire whistle is blown calling out the remainder of the companies. When the general alarm, called the "Wildcat Whistle," is sounded, all fire companies and all employees, either on or off duty, report to the fire.

The following is a partial list of major fire fighting equipment maintained within the plant:

12 miles of water hydrant lines with approximately 200 hydrants and 250 monitor nozzles. The monitor nozzles, located in vital locations on the processing units, can be set and left unattended to play on strategic points during a fire.

8 miles of double lines for Foamite.

Safety steam lines to tanks, covered drainage ditches and processing units. Steam is turned on tanks and units whenever electrical storms are threatening.

Special Foamite Railway Train. This is a complete self-sufficient fire fighting unit that can fight all fires accessible by railroad tracks. In addition to fires within the refinery, the train has been called out to neighboring refineries on several occasions. It consists of 2 tank cars of sodium bicarbonate solution, 2 lead lined tank cars of alum solution, a pump and generator car and an equipment car.

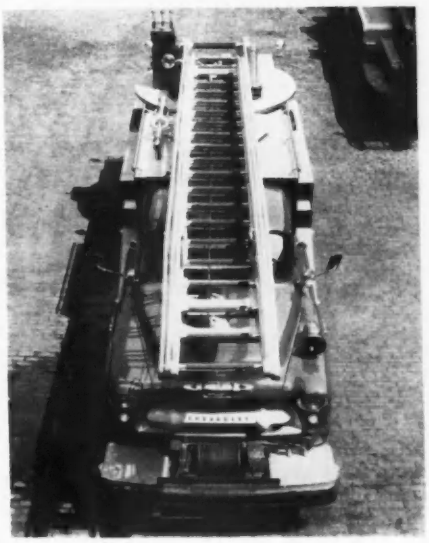
2 — 1000 gpm pumpers — including a 1956 model American LaFrance.

1 — 500 gpm trailer mounted pumper.

2 — National hydraulic foam towers on trailers.

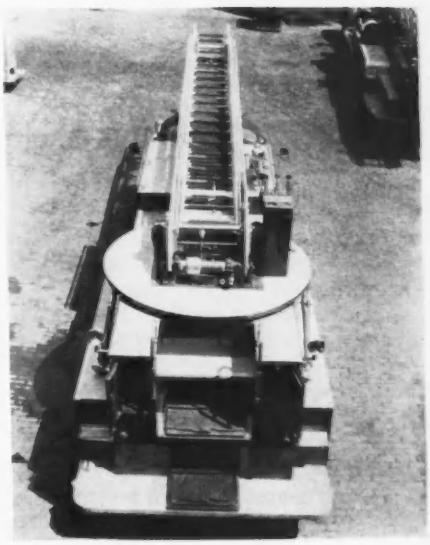
1 — 65-ft. Seagrave aerial ladder.

Fire fighting crew at Port Arthur Works of the Texas Company performs a training evolution with the new ladder truck and 1,000 gpm pumper. Note that pumper at left has three compartments for 3-inch hose and two compartments for foam generators. The 65-ft. aerial ladder has enough reach to permit foam application on the highest tank in the refinery. A Rockwood 2½-in. type FFF Fog-Foam Nozzle with screen was furnished for use with the ladder pipe. Three-inch ladder pipe hose was furnished with inlet siamese.



(Left) Front view of new aerial truck with ladder on bed. The Braden Model MU-9-12F front mounted winch has a pulling capacity of 20,000 pounds.

(Right) Rear view of ladder truck shows ample compartment space. Note the design of the compartment "steps" which allow easy movement from the ground to the turntable.



(Right) "Halftracks" can be placed on rear wheels in ten minutes by two men to provide sufficient "flotation" for the vehicle when it moves into soft terrain. Large outriggers provide stability for the truck. Tandem axles were specified for this truck to permit movement over the difficult terrain of tank farm installations.

What to Do about

Assisting the Sprinklers

Some tips on practical fireground operations by Captain William E. Clark, Instructor in Fire Administration, Queens College, New York, and Executive Member of the Uniformed Fire Officers Association.

SPRINKLERS are one of the best weapons yet devised to combat fire, but any weapon — no matter how good — must be used correctly to get the best results. And sprinklers, in order to function at maximum effectiveness, often need the help of the firefighting force.

Eighteen percent of the "large loss" building fires of 1955 occurred in sprinklered buildings. Usually human failure rather than sprinkler failure is to blame for such losses. Neglect by the firefighting force to properly assist a sprinkler system can result in extensive fire damage, heavy water loss or both.

The rapid extension of one of the costliest fires in United States history can be attributed to failure to use the sprinkler system properly. (A sprinkler control valve was hastily closed before the fire had been extinguished, and soon the flames spread beyond control.)

Another vivid illustration happened recently when a fire department could not supply water to a sprinkler system because the building's siamese connection was obscured by a pile of bricks. When the water from the gravity tank was exhausted, the fire extended rapidly throughout several floors of what was thought to be a fire-safe modern building.

(Left) Buffalo, New York, fire fighters responding to an alarm found the siamese connection to the sprinkler system blocked by the piled cinder blocks at right of this picture.

Firemen must anticipate the problems that may arise when fire occurs in a sprinklered occupancy, and prepare themselves to operate in a manner that will not only cope with these problems but will intelligently make use of the sprinklers. There are two main divisions of activity in this regard. One is duty at the fire. The other is preparation before the fire, which includes inspection and pre-fire planning.

Inspections help fire fighters to discover unsafe conditions affecting the sprinkler system such as valves that are closed or inoperative, defective siamese connections, inadequate water supply, sprinkler heads corroded or covered with paint, or blocked by obstructions that would seriously limit their effectiveness; and storage of materials which would react dangerously with water.

Fire department inspectors should also look for the sources of supply and the location of control valves — especially those that would be difficult to find during a fire. Locations of siamese connections for use in supplying the sprinklers by fire department pumpers should be noted and differentiated from standpipe and other inlets. Also, if there is a split system, it is important to know what portions are supplied by the various inlets.

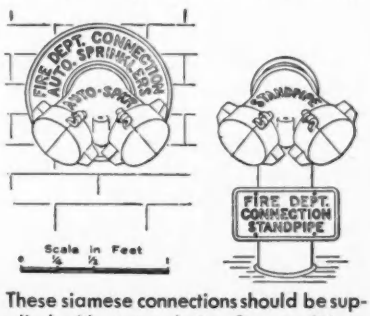
The task facing the fire department at a fire in sprinklered occupancy is not always simple. For one thing the high humidity caused by the sprinkler spray causes the heat to be extremely distressing to the fire fighters and the water-laden smoke descends to the very floorboards — sometimes even to floors under the fire — making it virtually impossible to avoid the smoke by getting under it. Operations are hampered by discomfort and poor visibility.

It is largely due to these reasons that firemen often prefer to close the sprinkler system quickly and extinguish the remaining fire with water from hose lines. This is a dangerous practice.

If "wet" smoke is a problem, correct ventilation may remove it. Due to the weight of the smoke, "top ventilation" is not as effective as in other cases. However, much may be accomplished by good cross-ventilation, especially if it is assisted by blower and exhaust fans.

When it is determined during a fire that there is no longer any need for the sprinklers, they should be closed without delay to avoid additional water damage. But whenever a valve is closed, a fireman should be stationed at that valve ready to open it again at a moment's notice. A man should remain at that post until the used sprinkler heads are replaced and the valve reopened — even if this assignment means leaving him behind after the fire companies return to quarters.

If a fire is of such large proportions that there is no temptation to shut off the sprinkler system, then attention should be directed to augmenting it, for if the water is supplied from a gravity tank, pressure tank or other limited source, it may be used up quickly.



These siamese connections should be supplied with water during fire conditions.

(Right) Inspections lead to valuable information on control valve locations which may be typed on cards to be carried with apparatus, or filed in quarters with alarm assignment cards and brought along when responding to alarms. Control valves may be in pits, underground boxes, or may be indicator post valves outside the buildings.

3-2898-1 1724 86th St. (bet. 17th & 18th
A.D.T. valve avenues)

Peerless Mattress Co.
Cellar, 1st and 2nd floors
Manufacture of mattresses, storage of
kapok, felt, excelsior, cloth.

Wet pipe automatic - city main connection
control valve in cellar 10 feet west
of entrance on 86th St. side wall.
Siamese connection on 86th St. front of
building 6 feet from west wall.

If a fire department supply inlet is present, a hose line from a pumper should be connected to it and water supplied in the necessary amount. If such an inlet is a siamese, it is good practice to connect two hose lines — one to each side. Not only is friction loss reduced, but if one line bursts there is still some assurance of continuing supply.

If ample water is to be supplied in a building where many sprinkler heads have fused, the task merits prime consideration. Pumpers supplying sprinkler systems should not have too much of their water diverted to other uses, such as for hand lines or deluge sets.

Where water is supplied to the sprinklers by the same water main that the pumpers are using, a problem arises when the supply is not sufficient for both. Officers should be on the alert to notice this condition. Some fires have extended because pumpers "robbed" the sprinkler system. Careful judgment is called for to decide where the water will do the most good — from the sprinklers or from the hose lines — when there is not enough for both.

It is well to remember that volume rather than high pressure is required for supplying sprinklers. Excessive pressure may cause a rupture in the piping and render the whole system useless. A pressure sufficient to maintain 10 p.s.i. at the highest and farthest fused head will be ample in most situations. However, volume must be estimated to calculate friction loss allowances. A simple formula for estimating the volume of water needed to supply a number of sprinkler heads in a fire area is $\frac{A}{4} = Q$ where "A" is the area in square feet and "Q" is gallons per minute needed.

Another way of expressing this is to multiply the width of the building (or sprinklered area) in feet, by the length in feet, and divide by 4. The answer will be the gallons per minute needed.

If it appears that sprinklers are not achieving the desired result, a quick check should be made of all valves that can be approached. It is always well to check and see that valves are open. There is the possibility that the whole system or a portion of it was shut off prior to the fire. Firemen should be able to identify a post indicator valve or outside stem and yoke valve and determine if the valves are open or closed. They should know how to open and close these valves.

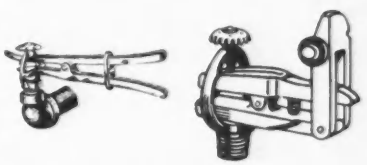
Most fires that happen in areas protected by automatic sprinklers are quickly extinguished by the operation of one or two sprinkler heads. What then, are the reasons for those rare occasions where fire spreads beyond control of sprinklers that are known to be in operating condition?

One is a flash fire that sets off so many heads that the water supply is exhausted before the fire is extinguished. A similar situation occurs when the sprinklered building is an exposure to the original fire. In cases like these it is essential that the sprinklers be supplied quickly by fire department pumpers.

Another cause is fire out of reach of sprinkler spray. This could be under a worktable or in concealed wall spaces.

Sometimes an explosion that caused the sprinkler pipes to rupture or fall from the ceiling is the reason for failure. Another possible cause is the storage of materials not readily extinguished by water.

In most cases, however, sprinklers extinguish the fire quickly and the firemen's problem is largely one of shutting them off. This can be done by closing the control valve for the area involved or by the temporary measures of using "sprinkler tongs" or a wooden wedge to stop the flow of water at a particular head or heads. If no other means is available, a man may stop the discharge from a sprinkler by holding a finger tightly over the opening.

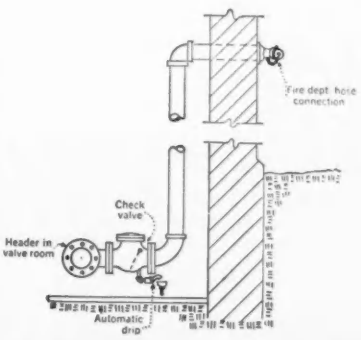


Typical sprinkler tongs carried by fire fighters for stopping water flow from fused sprinkler.

Finding the area control valve is often a difficult procedure if these have not been marked in advance. Sometimes they are in closets or concealed in ceiling or wall spaces accessible through small doors or panels not readily noticed. If the piping is visible it may be traced, following the larger pipe at each junction until the valve is reached. Wherever the control valve is accompanied by a drain valve, the latter should be opened when the former is closed.

Companies should be equipped with small wooden wedges of a size that can be driven into the loop of a sprinkler to cover the orifice tightly and stop the flow. In areas not serviced by salvage units, apparatus and chiefs' cars may carry a few sprinkler heads so that those fused can be replaced quickly and the system restored to service.

(For detailed information on sprinkler systems see NFPA No. 13 — "Standards for Installation of Sprinkler Systems." 164 pages, price $1.00 — Ed.)



Typical fire department connection to sprinkler system.

The Greenfield, Massachusetts Fire Department has a very active and successful baby sitter training program. Here Deputy Chief Edmond Tetreault is beginning instruction on fire extinguishers for one of the classes.

Some Tips on

TEACHING THE BABY SITTERS!

By Merilyn Boyce, NFPA Public Relations Department.

THE NFPA estimates that nearly 4,000 children died in fires during 1956. Of these deaths, the major portion can be blamed on parental neglect. And one third of these deaths, or approximately 1,300, resulted because parents actually left their children unattended or in the care of an incompetent baby sitter.

While many fire departments and other interested organizations are now conducting effective fire prevention operations, few groups recognize that proper supervision and care of children is an important phase of fire prevention and protection in the average home.

The child is a readily acceptable symbol to the public. An effective program, focusing attention on the child's welfare in relation to fire and other hazards, will bring public commendation and cooperation to the sponsoring fire department.

Suggestions for Children Unattended Campaign

One of the first and most important considerations in any children unattended campaign is some form of instruction on the proper care and supervision of children. Baby sitter training programs provide a good solution in most cases. Of equal importance is the understanding and support of such community groups as the school board, PTA, women's clubs, Chamber of Commerce and other civic organizations. Support and cooperation from these groups in publicizing and carrying out the program will produce much more comprehensive and effective results.

Efforts might well be concentrated on these three steps:

1. The fire department to assume leadership in initiating a positive campaign against children being left alone and helpless — in announcing such a campaign, these points to be brought out: seriousness of problem, number of child fire deaths, program is being organized to help provide parents with well-trained baby sitters.

2. Baby sitter classes established with the cooperation of local groups mentioned above. Four or five classes dealing with parent-sitter relations, first aid, child care, safety, with lecturers from the Red Cross, Fire Department, Police Department, Women's Club, Public Health and medical organizations. The course might be given two times a year depending upon community needs, and graduates to be awarded some form of certificate and have names publicly listed. In connection with this course, and the whole campaign as it ties in with general fire prevention, it is recommended that a syllabus, or outline of the course, be provided school teachers to aid them in integrating this subject into regular classroom activities.

3. Enlistment of all local media . . . radio, television and press, to publicize these efforts of the fire department to cut down the death toll among children. Success in this campaign may encourage the fire department and various media to work more closely in the future in publicizing other fire prevention efforts and fire department activities in general.

Local conditions will determine the type of program best suited for the community.

Measuring Results

The results of any campaign of this type are difficult to measure. Certainly no one can predict exactly how the community will react to the plan or what points will assume the greatest importance. But the greatest satisfaction will come when the local newspaper runs a story similar to this one which appeared in the Phoenix, Arizona, papers.

"Nine children were brought to safety from a flaming home by a 14-year-old baby sitter who had to grope through blinding smoke near the end of the mass rescue. The baby sitter was dressing the children for bed when one said flames were coming from the roof. When she saw the fire, the baby sitter made several trips in and out of the house evacuating the children and thought all were safe. Then she realized the smallest baby was inside. She had to duck under flames in thick smoke to get to the baby's crib and bring him out. A sheriff's deputy said some of the children would certainly have died in the flames if it had not been for the baby sitter's fast, intelligent action."

Some communities already conduct a type of children unattended program, and the NFPA has received a number of reports on effective baby sitter training programs, such as:

Greenfield, Massachusetts . . . the fire department has sponsored a successful four-session baby sitter course for the past two years. Class discussions covered fire safety, use of fire extinguishers, dealing with prowlers, and child health and care. In the words of Greenfield's Fire Chief Stephen R. Zanieski, the course produced "amazing results" greatly surpassing all expectations and apparently was desired and needed by those doing this work.

West Milwaukee, Wisconsin . . . Chief

Chief Lawrence Winterbottom, Fire Department, Vineyard Haven, Massachusetts, demonstrates a carbon dioxide extinguisher during a baby sitters' course for 4-H Club members.

The West Milwaukee, Wisconsin, Fire Department, headed by Chief John Pavlik, reaches this parochial school class through its effective program "Operation — Too Young to Burn!"

John Pavlik of the West Milwaukee Fire Department obtained approval of the various school officials in his community for his baby sitter course. Bulletins dealing with the subject were passed out to high school and junior high students followed by a lecture, demonstration, written examination and awarding of certificates to those completing the course satisfactorily. Chief Pavlik reported that this was just one phase of the department's campaign "Operation — TOO YOUNG TO BURN."

Walla Walla, Washington . . . learning to keep calm in an emergency and how to act in case of fire were some of the most important things girls graduating from the baby sitter classes in Walla Walla, Washington, felt they had learned. Sheridan Dickson, Administrative Assistant of the Walla Walla Fire Department reported that girls were given booklets on baby sitting and lectures were given at the Y.W.C.A. by the police and fire chiefs. The girls came away with a sense of security in the jobs they might take on in the future.

Wausau, Wisconsin . . . Chief W. G. Petzold of the Wausau Fire Department reports an extensive baby sitter program with an active Baby Sitters' Club. Members of the club receive training from an officer of the fire department at least once a year.

Other baby sitter training courses are being sponsored by and are assisted by fire departments in Richland, Washington; Bellows Falls, Vermont; and Vineyard Haven, Massachusetts. Each has the same basic objective of promoting child fire safety, but each has variations which fit it best to the needs of the particular community. Fire officials in all of these communities will supply information on their programs to anyone requesting it.

A special campaign kit for initiating children unattended campaigns locally is now available from the NFPA Public Relations Department.

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CAIRNS & BRO., Inc. — Allwood, Clifton, N. J.

SINCE 1836

Forsyth County's first extinguisher cart and jeep.

The Forsyth County Story

By Richard Bull, News Bureau Manager, Nationwide Insurance, Columbus, Ohio

NOT so many years ago, in Forsyth County, North Carolina, the only thing that stood between rural properties and their destruction by fire was one 50-gallon foam extinguisher on a cart. That's completely inadequate protection, by anybody's standards.

Then Wally Dunham went into action.

Owner of the Zinzendorf Hotel in Winston-Salem he is the kind of person who knows everybody. In addition to looking after his business interests and working with civic groups, he found time to coach a local high school football team.

Dunham was a county commissioner, too. In that capacity he centered a lot of attention on fire safety. He was greatly concerned over the single foam extinguisher and the need for improved rural fire protection in Forsyth County.

"While I was in the service," Dunham recalls, "five homes in the rural area of Forsyth County were completely destroyed by fire because there was no protection. In addition, two valuable school buildings were totally destroyed. They cost the taxpayers about $1,300,000. And many fine barns, other farm buildings and businesses were lost. These costly losses, not to mention the heartache and inconvenience that our people suffered, certainly pointed up the need for action."

One of his first acts as a county commissioner was to push through an appropriation to get a jeep hitched to that lone extinguisher cart. Not much in the way of equipment, but at least the apparatus became mobile.

Dunham's plans to bring fire safety protection to the county's rural areas got rolling, too. He traveled over the county, visiting small communities and setting up meetings of interested citizens. Plans for fire departments were thoroughly discussed at those meetings, and dates were set for general, community-wide meetings.

"It was at the general meetings that we gave full explanations about fire companies and their benefits,' Dunham explains. "The people in

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No wonder the dry-cell "Commando" is economical for any department and *ideal* for the volunteer. It's really power-packed, too — weighs only 67 ounces, but delivers a brilliant half-mile beam! Find out more about this partner of the famous Wheat Rechargeable Spotlight. Both are dependable products of Koehler — quality name in portable lighting for over 40 years.

For information, write to Department L

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A Forsyth County fire fighter and L. E. Shingledecker (*right*) inspect fire safety survey chart developed and maintained by fire fighters.

the community then took a vote on whether or not they wanted a fire department. If the answer was 'yes,' steering committees were set up and chairmen were appointed to look after such things as incorporation, equipment, fire fighting members, location of fire houses, publicity and raising funds."

Interest in the fire safety program was understandably high in the farm areas, and soon there were enough fire departments established to put any property in the county within three miles of a station.

The communities that responded to the program and set up volunteer fire companies were: Beeson's Crossroads, City View, Clemmons, Forest Hills, Griffith, Lewisville, Mineral Springs, Mount Tabor, Old Richmond Rural Hall, South Fork, Tally's Crossing, Triangle, Vienna and Walkertown.

"The job those people did in financing their departments was especially gratifying," Dunham says. "Practically all the money was raised in each community by public donations, in response to fund drives. The County advanced $1,000 after it was assured the fund drive would be successful. The goal was generally set at between $7,000 and $15,000."

The 15 volunteer departments became part of an organized group in August, 1954, when E. R. Bauguess, of Winston-Salem, was named County Fire Marshal. His assignment: to devote full time to training and coordinating the activities of the various fire departments.

An energetic, year-round fire safety promotion and education campaign has had its effect on the success of the Forsyth County program. Perhaps the most significant of several activities has been the

From one chief to another . . .

CHIEF LUKE J. BERGAN, AUBURN, N. Y., SAYS:

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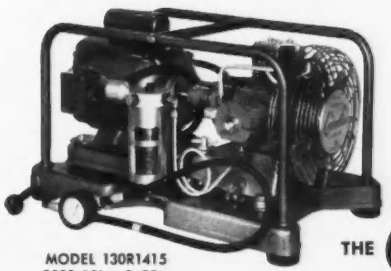

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Hose should ALWAYS be washed after using, then dried with proper hose conditioning equipment.

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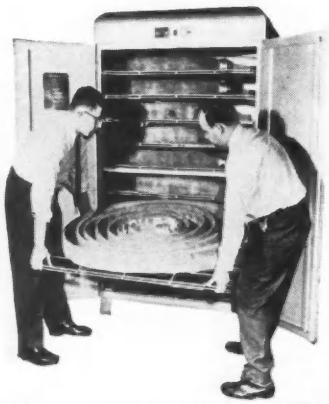

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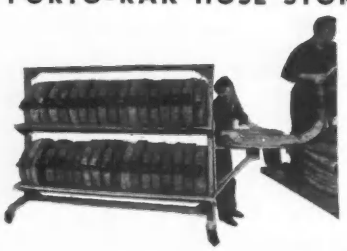

Saves valuable space. Holds 1800 ft. of 2½" hose — proportionately more of 1½" — in an 8 ft. space (when loading table is detached). Roll it right up to the truck for complete hose reload — out of the way when not in use. Equipped with locking fiber-wheeled casters.

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This modestly priced washer drains and rinses the hose as it washes. 4 Roto-Jets constantly spray hose with clean, fresh water — all sediment is flushed through collecting pan and down the drain. Turntables keep the hose OFF the floor. They're excellent for reloading truck (several lengths may be stacked on each) or loading the hose dryer.

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(Continued from previous page)

institution of the Rural Fire Safety Survey program, a threefold project under which members of the departments prepare maps of their own territory, numbering the properties and posting telephone stickers in homes — stickers bearing information on how to report a fire. In addition, a file card on each location, with "everything the well-informed fireman should know," is kept on the fire truck. Duplicate cards are retained in the firehouse.

The survey program is preventive, as well. In examining the properties for information related to a potential fire, the volunteers use a survey sheet listing hazardous conditions. These are discussed with the people who live on the locations, and firemen suggest ways to eliminate the hazards.

Thirdly, the program is educational, both for property owners and the volunteer firemen. Department personnel can acquaint themselves firsthand with fire safety conditions in their own communities, and are better able to suggest ways to improve those conditions.

In organizing the rural fire safety survey, Dunham and Bauguess worked with officials of the North Carolina Insurance Department and with L. E. Shingledecker, supervisor of fire safety for Nationwide Insurance, Columbus, Ohio. The insurance firm had taken part in the development of similar programs in Ohio, Pennsylvania and West Virginia. Overall guidance for the survey program came from the Farm Committee of the National Fire Protection Association.

Other projects, designed to keep fire safety and prevention well up front in the minds of Forsyth County rural residents, have been meeting with similar success. At Christmastime the fire departments

Wally Dunham with Sertoma Award he won for his work in rural fire safety.

delivered greetings to the people in their areas in the form of a "Merry Christmas Assurance Check List." The list suggested precautions to be taken with the Christmas tree and other holiday decorations, as well as ways to safely dispose of wrappings and the discarded tree. Prior to the issuance of the check list, two homes in the county suffered damage resulting from decoration-fed fires. After residents received their "cards," no such accidents were reported.

Other months of the year are set aside for inspection of various classes of structures: School Property month, Church Buildings month, Small Businesses month, etc. Inspections for fire hazards are made, details are filed in fire station records and property owners are informed of their fire safety scoring.

During Forsyth County Fair Week, a half day is devoted to recognition of the 15 volunteer fire pepartments in the county. Teams rrom the departments engage in ladder-raising and fire extinguishing contests.

At present, the 15 volunteer fire departments in the county have a total of 27 operating fire trucks, approximately 450 volunteer firemen and 100 active members of the traffic department. These departments own around $400,000 worth of equipment and virtually all of it has been paid for. Nearly every department has two complete fire trucks, and when one is called out on a mutual aid mission, for example, the other remains in the firehouse, ready to handle any emergency that might arise within its own district. All companies in the county have two-way radio equipment with which to summon aid or give immediate assistance.

"Another thing," says Dunham. "Our fire prevention survey cut our fire calls some 60 percent, during a 5-year period. I think that's tangible evidence that the program is doing a job.

"Then, too, the organization of our departments has resulted in a six percent reduction in fire insurance rates for people in the areas we protect. Persons in unprotected sections pay a rate of 54 cents, while those in the districts with fire departments pay 48 cents. And we're hopeful that this difference will be greater in the near future."

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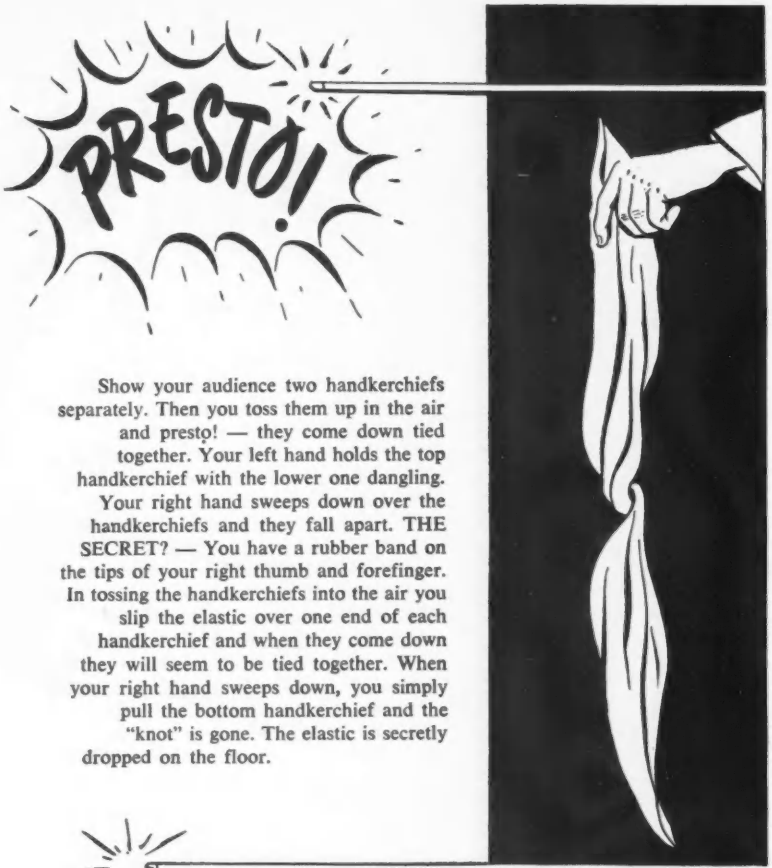

Show your audience two handkerchiefs separately. Then you toss them up in the air and presto! — they come down tied together. Your left hand holds the top handkerchief with the lower one dangling. Your right hand sweeps down over the handkerchiefs and they fall apart. THE SECRET? — You have a rubber band on the tips of your right thumb and forefinger. In tossing the handkerchiefs into the air you slip the elastic over one end of each handkerchief and when they come down they will seem to be tied together. When your right hand sweeps down, you simply pull the bottom handkerchief and the "knot" is gone. The elastic is secretly dropped on the floor.

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Sparky in Washington, D. C.

A PATHETIC example of unattended children was found in Washington early in November, 1956. Inspector P. J. Poremsky of the Fire Prevention Bureau was called to a two-story apartment building by the occupant of the first floor. The occupant told the inspector that he believed that fire hazards and unsanitary conditions existed in the second floor apartment and that small children in the apartment were chained.

Upon investigation, Inspector Poremsky discovered that two children in the second floor apartment were chained to a studio couch. Police officers were notified, and the children were freed and taken to the Women's Bureau of the City. A little later their mother testified in court that she chained the children to the studio couch because a man threatened to "beat them up."

Although the youngsters did not seem perturbed about their situation, members of the Washington, D. C., Fire Department later presented them with "Sparky" dolls just to show the youngsters that the firemen were deeply concerned with safety to children. Shown making the presentation in the picture below are Fire Marshal R. C. Roberts (left) and Inspector Poremsky.

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MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

Obtaining Maximum Flow at Low Pressure Hydrants

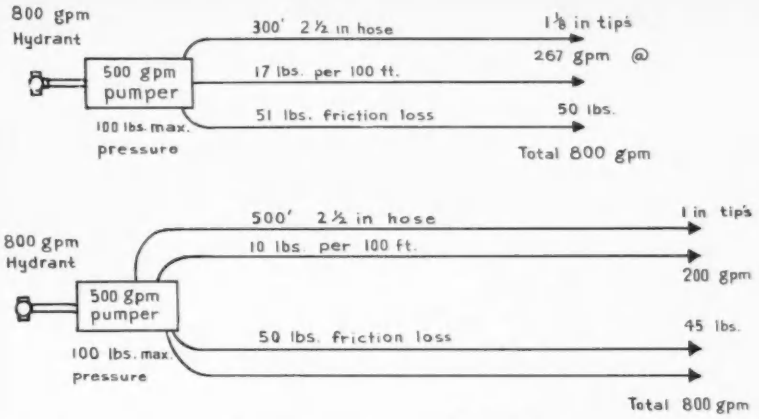
IT SOMETIMES happens that we need to get all the water available from a pumper at a hydrant, maintaining only enough residual pressure to provide the maximum flow. Let us take as an example a situation where only one low pressure hydrant and one 500 gpm pumper are readily available and maximum capacity is needed. Pressure is too low to provide direct hydrant streams to supplement the pumper output.

We know from test and from our pump gages that we have a maximum of 750 to 800 gpm, with 5 lbs. pressure at the hydrant. How can we deliver this water at effective pressures with one 500 gpm pumper to a fire more than 400 ft. away?

Now, we want to move 800 gpm through hose lines 500 ft. long with a pumper rated to deliver 500 gpm at 150 lbs. net pump pressure at draft. We must be careful not to overload our pump as failure could be disastrous.

We have previously determined (FIREMEN for December, 1956) that 500 gpm at 150 lbs. is equivalent to lifting 4,168 lbs. of water 346 ft., or 1,443,387 foot-pounds of energy. Now 800 gpm is 6668.8 lbs. of water which divided into 1,443,387 gives us 216 ft. pressure head, which divided by 2.3 (2.307 ft. of water exerts pressure of 1 lb. per square inch), gives 94 lbs. pressure which must be added to the 5 lb. hydrant residual to deliver the 800 gpm.

Thus for our 500 gpm pumper to pump 800 gpm from a hydrant the pump discharge pressure should be not over 100 lbs. to keep the load within the capacity of the pumper. In other words, the pumper can only produce a certain amount of work (foot-pounds). Within that capacity you can alter volume and



Top sketch shows how 500 gpm pumper can be overloaded if attempts were made to move 800 gpm and maintain 50 pounds nozzle pressure for the 1⅛-in. tips. The 135-lb. pressure needed would mean too much work for the pumper which is only rated at 100 pounds. Bottom sketch shows how the same amount of water can be moved efficiently by adding another line and reducing the tip size.

pressure outputs, but when you exceed rated capacity, you sacrifice volume for pressure and vice versa.

If we carry the 800 gpm from the pumper in three 2½-in. lines we would have about 267 gpm per line which would give 17 lbs. friction loss per 100 ft. of hose. We would need 50 lbs. nozzle pressure from 1⅛-in. tips to handle this flow so that our required pump pressure would be 135 lbs. which, with the 800 gpm moving, would be an excessive load on the pump.

If, on the other hand, we used four 2½-in. lines with 1-in. tips, each discharging 200 gpm, we would only have 10 lbs. friction loss per 100 ft. of hose which would keep the required pump pressure down below 100 lbs. with the 500 ft. lines. With three lines from a 500 gpm pump at the low pressure hydrant the lines should not be much over 300 ft. long. A 750 gpm pump could handle the 800 gpm at 150 lbs. pump pressure and could supply the three 267 gpm streams through 500 ft. lines without difficulty.

The diagrams at left show how the additional line permits movement of larger quantities at lower pump pressures. Larger hose would do the same thing.

Now if we have another 500 gpm pumper available we would have no difficulty in moving the full volume from our hydrant any reasonable distance. We could place two pumps at the hydrant or we could use a relay. To move 800 gpm in a relay would require three 2½-in. lines between pumps.

Recent Champion Deliveries

U. S. Vets Adm. Hospital, Hines, Ill.

Sohio Petroleum Co., Latonia Refinery, Covington, Ky.

City of Rossville, Rossville, Tenn.

Cedar Hammock Vol. Fire Co., Bradenton, Fla.

If you're in the market for new fire apparatus for your community write the above new Champion owners — let them tell you man-to-man why they selected Champions for their Depts. (our best ads are written by our customers).

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AT YOUR SERVICE: Sales and Service Representatives — East, Midwest, North, South

You'll want to know all about our low cost finance plan or combination PURCHASE-RENTAL plan.

W. S. DARLEY & CO., Chicago 12

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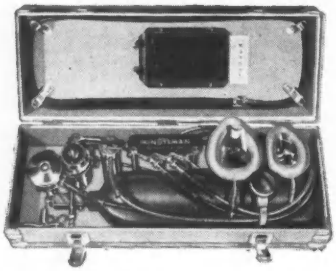
THE
STEPHENSON "MINUTEMAN" RESUSCITATOR



This lightweight, lifesaving device is especially designed for FAST application in all respiratory emergencies.

The newest rookie can start it breathing for the victim in seconds.

The "Minuteman" does more for the victim

Its size and weight make it particularly desirable for use in:

Crash Trucks — **Emergency Cars**
Ambulances — **Patrol Cars**
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MAXIMUM USABLE VISION

Tests prove that ACME gas masks lead the field in giving you clear, undistorted vision — up, down, and to either side. Along with maximum usable vision, you get greater comfort, less fogging, mimimum breathing resistance, acceptable conversation transmission — all at down-to-earth prices.

Write for Bulletins No. 501 on gas masks and No. 562 on results of vision tests.

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New Members in NFPA

California: Engine & Truck Companies No. 3, San Francisco.

Florida: Auburndale Fire Department, Auburndale.

Illinois: Chillicothe Community Fire Department, Chillicothe; Downers Grove Estate Fire Department, Downers Grove.

Kansas: Shawnee Township Volunteer Firemen's Relief Association, Kansas City.

Maryland: Vigilant Hose Company, Emmitsburg; Hyattstown Volunteer Fire Department, Hyattstown; Kentland Volunteer Fire Department, Kentland.

Massachusetts: Plainville Fire Department, Plainville.

Minnesota: Sherburn Fire Department, Sherburn.

Mississippi: Chief A. E. Fletcher, Jr., Sardis Volunteer Fire Department, Sardis.

New Hampshire: Littleton Fire Department, Littleton; Tilton-Northfield Fire Department, Tilton.

New Jersey: Ocean Beach Volunteer Fire Company No. 3, Normandy Beach.

New York: The Hagerman Fire Department, East Patchogue, Long Island; Port Ewen Fire Department, Port Ewen; St. Paul Blvd. Fire District, Rochester.

North Dakota: Harvey Volunteer Fire Department, Harvey.

Ohio: Beachwood Volunteer Fire Department, Beachwood Village; Porter Township Volunteer Fire Department, Wheelersburg.

Oklahoma: Chief Jim Woods, Sayre Fire Department, Sayre.

Ontario: Stafford Volunteer Fire Brigade, Pembroke.

Pennsylvania: Primos-Secane-Westbrook Park Fire Company No. 5 of Upper Darby, Clifton Heights.

Saskatchewan: Cunnar Mines, Ltd., Uranium City.

South Dakota: Crooks Fire Department, Crooks.

Tennessee: Bell Buckle Fire Department, Bell Buckle.

Vermont: St. Albans Fire Department, St. Albans.

Trophy Winners

Chief George I. Smith, of the Raytown, Missouri, Fire Protection District, recently forwarded the above photo to FIREMEN magazine. It shows the Raytown hose team which won top award in a contest conducted by the Jackson County Fire Fighters' Association at Lake Latawana. (*Front*) M. Richardson, E. Wendel; (*rear*) T. Troxell, A. Davis. The conference was directed by Joseph I. Fetters, University of Missouri, Chairman of the NFPA Committee on Firemen's Training.

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"THE GREATEST NAME IN FIRE APPARATUS"
. . . because there never will be any compromise with QUALITY!

Today there is a tendency to cut quality to meet competition. But fire apparatus can never be efficient and dependable and be of shoddy construction at the same time.

At Seagrave there is no cutting in quality and that is why we continue to be the leader in the quality field. To maintain these high standards we keep complete control over materials, engineering and construction. Seagrave V-12 engines, all bronze centrifugal pumps, all steel bodies, safety frames, ladders and other principal parts are designed by Seagrave engineers and produced in the Seagrave factory. Any necessary service during the long life of the apparatus is supplied by Seagrave trained mechanics.

That is why the name SEAGRAVE on fire apparatus always has been and will continue to be a guarantee of quality. It is your best assurance of efficient, dependable, trouble-free fire service for year after year.

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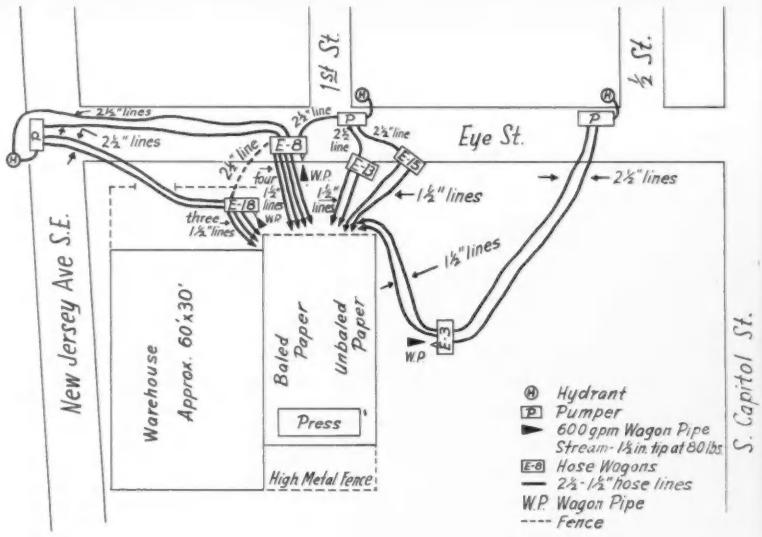
Getting a Full Attack Quickly

BATTALION Chief Alfred M. "Hap" Grunwell of the Washington, D. C., Fire Department reports some interesting operating techniques used during a recent fire in that city.

On November 11, Chief Grunwell responded with Engines 8, 18, 13, and Ladder Truck 7 of the 7th Battalion to a fire in a junk yard. When he arrived, the junk yard, covered with wastepaper, baled and unbaled, was entirely involved. Close by was a one-story, brick and corrugated metal warehouse which presented a serious exposure hazard.

Engine 18 attacked immediately with three 1½-in. lines. Engine 8 placed four 1½-in. lines in service, while Engine 13 used two 1½-in. lines.

According to a prearranged plan, the Battalion automatically went into service for heavy stream operation. Engine 18 and Engine 8 laid multiple 2½-in. lines between their hose wagons and pumpers and placed wagon pipes in service. Engine 3, responding on a special call, laid two 2½-in. supply lines between Engine 13's pumper and its hose wagon and placed two 1½-in. lines and a wagon pipe in service. Engine 15, also responding on a special call, laid one 2½-in. supply line to its hose wagon and placed two 1½-in. lines in service. Personnel of Ladder Truck 7 assisted the crews from Engine 8 and 18 in connecting multiple supply lines.



After the fire was under control, use of hand lines was discontinued and a third 2½-in. supply line from the discharge of Engine 8's pumper was connected to Engine 18's hose wagon to develop high nozzle pressure for overhauling smouldering bales of paper. This utilization allowed other units to return to service.

Through this teamwork, approximately 3,000 gpm was discharged on the fire within a minimum of time and with a small operating force. Chief Grunwell reports that this performance represents an increase of approximately 300 percent in gpm over the previous operating technique in which pumpers were connected to the hydrant, and the engine companies went into service with one 2½-in. line. The diagram above illustrates hose line layouts and positions of apparatus.

For Forest Fire Fighting

THERE has been considerable demand for the 80-page, illustrated booklet "Community Equipment and Organization for Fighting Forest, Grass and Brush Fires." This 4¾ by 7¼-in. paper-bound edition contains the recommendations of the NFPA Forest Committee on equipment and effective organization for combat of forest, grass and brush fires.

Copies of this booklet, designated NFPA No. 295-M, may be bought from the NFPA Publications Department for $1.00 each. Generous discounts are allowed for quantity purchases.

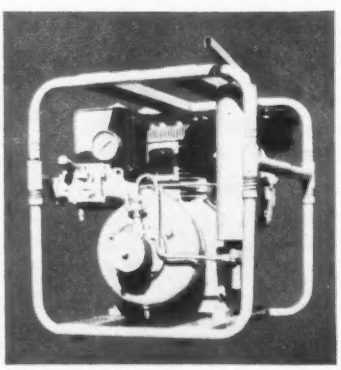
Fight Brush Fires From Moving Truck with a Hale Type FZZ PORTABLE PUMPING UNIT!

Picture below shows fire fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or *from* booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or for pumping from pond, stream or well direct.

An FZZ will supply from draft 2 capable fire streams thru 1½" lines. Performance substantially exceeds NBFU and NFPA capacity and pressure requirements.

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Also available mounted on two wheels or on rubber-cushioned steel channels. **Note:** Discharge Adapter can be supplied for use with 2½-inch hose.

**Write today for NEW FZZ Folder.*
Let us know if you want a demonstration.



HALE FIRE PUMP CO.
Conshohocken, Pa.
Fire Pumps in All Standard Capacities

NOTE:
FZZ Now Has NEW—
- **Ball-Type Valve**
- **Improved Priming**

TRAGEDY COMES TO LEXINGTON. This tank truck jackknifed, tipped over on its side and traveled about 100 feet in that position. Sparks showered up from beneath the truck and it ignited. The driver was killed.

Rockwood FOAM controls tank truck fire in minutes!

Here is the true story from the pages of the Boston Globe and eye-witnesses

It was Thursday, March 17, 1955, 9:30 a.m. A tank truck was stopping at a traffic light on the Concord Turnpike in Lexington, Massachusetts. Suddenly, it jackknifed. There was a puff of smoke, and then flames. The driver was hurled onto the roadway. His clothes were aflame and he collapsed. Onlookers said flames reached 200 feet in the air.

Minutes later, in answer to a telephone alarm, Engine 2 of the East Lexington Station was on the scene. Flames whipped by winds and fed by several thousand gallons of gasoline were sweeping across the road and scorching the surrounding trees. Black smoke billowed into the air.

Roy A. Cook, Chief Engineer of the East Lexington Station, ordered Engine 2, which carries 500 gallons of water, to hold back the flames until Engine 1, carrying Rockwood FOAM, could be put into action.

Soon Engine 1, equipped with a 1½" Rockwood FOAM eductor plus the new type SG-60 FOAM nozzle with adapter for straight stream and FogFOAM, was at the scene. *With this Rockwood equipment and FOAM, Engine 1 brought the fire under control.*

Does your city have this protection? With ever-increasing traffic, more filling stations and more tank trucks on the road, the frequency of gasoline fires is on the increase.

When tragedy came to Lexington, headlines told a grim story. But a major catastrophe was prevented because the East Lexington Station was prepared with Rockwood products.

Be prepared. Put this great fire fighter to work for you. Specify Rockwood Automatic FOAM Proportioning Systems, Rockwood FogFOAM nozzles and FOAM liquid when you order a fire truck.

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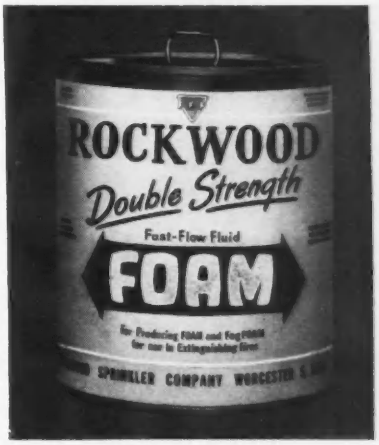
Engineers Water . . . to Cut Fire Losses

Distributors in all principal cities



ROCKWOOD DOUBLE-STRENGTH FOAM LIQUID, 3 parts mixed with 97 parts water, forms a solid FOAM blanket that quickly re-seals itself. Available in 5 gallon drums.

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Please send me your illustrated booklet on Rockwood fire fighting products.

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Company.....
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City.....*Zone*....*State*.....

News Items and New Equipment of Interest to the Fire Service

Sprayed Fire Retardant Coating

Keasbey and Mattison Company, Ambler, Pennsylvania, announces that their manufactured product, sprayed "Limpet" asbestos has been listed by Underwriters' Laboratories, Inc., Chicago, Illinois, as a fire retardant coating for structural steel. According to the manufacturer, fire tests recently conducted at the laboratory on steel columns, each sprayed with a different thickness of the fire retardant covering, were subjected to a flame temperature of 2,000° Fahrenheit. A column coated with a 2-inch thickness of the sprayed Limpet asbestos was rated at three hours protection. The column coated with a 1½-in. thickness produced a two hour rating. A supporting ceiling beam encased with metal lath and coated with a one and one-half inch layer of the sprayed asbestos was rated at four hours protection. A second supporting ceiling beam coated with a 2-in. layer received a rating of three hours protection. The asbestos is applied by blowing it under pressure through a spray machine together with a fine water spray. This produces a continuous lightweight, felt-like coating. Copies of a report giving results of the test conducted by UL can be obtained by writing Keasbey and Mattison Company, Ambler, Pennsylvania.

"I recommend BI-KLEEN for the FIRE HOUSE as well as FIRE HOSE!"

For cleaner, longer-lasting fire hose

This statement was made recently by a prominent fire chief because *Bi-Kleen* is not only the ideal cleaning and protection agent for all cotton rubber-lined hose, but it also does an amazingly fast and efficient job of cleaning oil, dirt and grease from the floor — even rough cement floors. Fire hose racks and truck beds need a good cleaning compound, too — and *Bi-Kleen* does a perfect job — keeps equipment "inspection clean" *all* the time with less scrubbing!

Order the inexpensive trial size today! You'll discover safe, non-toxic *Bi-Kleen* will save hose, save work, save money. Sold by the makers of the finest fire hose in the world — Bi-Lateral, flat-folding, non-creasing fire hose.

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FIRE HOSE COMPANY
20 No. Wacker Drive
Chicago 6, Illinois

Portable Loudspeakers

Sound-Craft Systems of Pittsburgh, Pennsylvania, manufacturers of portable loudspeakers, have announced two new "Portopage" models. These use a transformer-coupled amplifier powered with heavy-duty batteries. Amplifier and batteries are enclosed in a rust and corrosion proof case. A molded bakelite microphone is equipped with a lock down type talk switch for either intermittent or continuous duty. Shown above is the Model IB8-BV portable loudspeaker mounted on a Model C W window bracket. The manufacturer states that this type of equipment can be adapted for use on fire department vehicles.

Alert your full force instantly by radio. Contact *Monitoradio*, Div. I.D.E.A., Inc., 7900 Pendleton Pike, Indianapolis 26, Indiana. . . . The "Halligan Hook" is designed to get you inside in a hurry. For full information on this multipurpose entry tool designed by a fire fighter, write to *M. A. Halligan*, 1505 Metropolitan Ave., New York 62, N. Y. . . . The new 4-in-1 spanner holder and aluminum slide box strainer should be valued items for your apparatus. Write to *Boston Coupling Co.*, 293 Congress St., Boston 10, Mass. . . . Identify yourself by position and department with vehicle identification signs. They are available through *E. B. Lane*, 32 Greenwood Avenue., Toledo 5, Ohio. . . . A portable, dry-cell hand light with a ½-mile beam and 5-hour life is the new "Commando." Write for full information to *Koehler Mfg. Co.*, Dept. F, Howland Place, Marlboro, Mass. . . . When you need a memorial or special service plaque, remember the name of *City Plaque Shop*, Box 6, Eastwood Station, Syracuse, N. Y. . . . Facts you should consider when considering a fire alarm system are conveniently briefed in a 20-page, 4" x 9" booklet readily available from *The Gamewell Co.*, Newton Upper Falls 64, Mass. . . . The all-new Series 800 fire engines by American LaFrance may fit your requirements. Write to *American LaFrance Corp.*, Elmira, N. Y. . . . Want to know more about centrifugal fire pumps? Write for Bulletin 8733, *American-Marsh Pumps*, Battle Creek, Michigan. . . . Fire hose data is outlined in a free brochure on "Quaker 100" — write to *H. K. Porter Co., Inc., Quaker Rubber Div.*, Philadelphia 24, Pa.

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